

AT4 wireless, S.A.

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ASSESSMENT REPORT

Report No.: 29974IDT.002

REPORT ON: RF EXPOSURE ASSESSMENT OF THE F3607gw ERICSSON

MOBILE BROADBAND MODULE INSTALLED IN GENERIC HOST PLATFORMS COVERING 7 DIFFERENT COLLOCATION

SCENARIOS.

Product : Ericsson Mobile Broadband Module

Trade Mark : Ericsson **Model** : F3607gw

FCC ID: : VV7-MBMF3607GW2

Manufacturer: Ericsson ABRequested by: Ericsson AB

Host Platform: Generic host platforms covering 7 different collocation

scenarios

Standard(s) : OET Bulletin 65 Edition 97-01 August 1997

FCC 47 CFR § 1.1307 FCC 47 CFR § 1.1310

1999/519/EC

Radiocommunications (Electromagnetic Radiation -

Human Exposure) Standard 2003

ARPANSA RPS No. 3

AS 2772.2-1998:Radiofrequency radiation - Part 2

Vodafone requirements [1999/519/EC]

This test report includes 2 annexes and therefore, the total number of pages is 36.

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Issued by: Approved by: Date: 2009/06/23 Date: 2009/06/23

Ricardo Orejas Juan Carlos Mora

Worldwide Compliance Technical Manager

Date: 2009-06-23 Engineer Laboratories Division Page: 1 of 36



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1. COMPETENCE AND GUARANTEES

AT4 wireless is a testing laboratory competent to carry out the evaluation described in this report.

AT4 wireless guarantees the reliability of the data presented in this report, which is based on the information available at AT4 wireless at the time of performance of the evaluation.

AT4 wireless is liable to the client for the maintenance of the confidentiality of all information related to the item under review and the results of such evaluation

2. GENERAL CONDITIONS

- 1. This report refers only to the item that has undergone the evaluation as described in Annex A of this report according to the information provided by the applicant.
- 2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
- 3. This document is only valid if complete; no partial reproduction can be made without previous written permission of AT4 wireless.
- 4. This report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of AT4 wireless and the Accreditation Bodies.

3. CHARACTERISTICS OF THE EVALUATION

3.1. SERVICES REQUESTED

RF exposure assessment of the F3607g Ericsson Mobile Broadband Module installed in generic host platforms covering 7 different collocation scenarios according to:

Requirements	Frequency bands
OET Bulletin 65 Edition 97-01 August 1997 - Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields	
FCC 47 CFR § 1.1307 - Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.	GSM 850, PCS 1900, FDD II
FCC 47 CFR § 1.1310 - Radiofrequency radiation exposure limits.	
1999/519/EC Council Recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)	E-GSM 900, FDD VIII, DCS 1800, FDD I

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Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003 ARPANSA RPS No. 3 – Maximum Exposure Levels to Radiofrequency Fields (3 kHz to 300	E-GSM 900, DCS 1800, FDD I
GHz) AS 2772.2-1998: Radiofrequency radiation - Part 2: Principles and methods of measurement - 300 kHz to 100 GHz	
Vodafone requirements [1999/519/EC]	GSM 850, E-GSM 900, FDD VIII, DCS 1800, PCS 1900, FDD II, FDD I

3.2. REQUIREMENTS AND METHOD

The evaluation has been carried out according to the following documents and standards:

Requirements	Frequency bands
OET Bulletin 65 Edition 97-01 August 1997 - Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields	
FCC 47 CFR § 1.1307 - Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.	GSM 850, PCS 1900, FDD II
FCC 47 CFR § 1.1310 - Radiofrequency radiation exposure limits.	
1999/519/EC Council Recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)	E-GSM 900, FDD VIII, DCS 1800, FDD I
Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003	
ARPANSA RPS No. 3 – Maximum Exposure Levels to Radiofrequency Fields (3 kHz to 300 GHz)	E-GSM 900, DCS 1800, FDD I
AS 2772.2-1998: Radiofrequency radiation - Part 2: Principles and methods of measurement - 300 kHz to 100 GHz	
Vodafone requirements [1999/519/EC]	GSM 850, E-GSM 900, FDD VIII, DCS 1800, PCS 1900, FDD II, FDD I

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4. IDENTIFICATION DATA SUPPLIED BY THE APPLICANT

Identification data included in this section has been supplied by the client.

4.1. APPLICANT

Name / Company: Ericsson AB

V.A.T. Registration number: 556056-625801

Address: Lindholmspiren 11, SE-417 56 Goteborg

Country: Sweden

4.2. REPRESENTATIVE

Name: Pelle Hellberg

Address: Lindholmspiren 11, SE-417 56 Goteborg

Country: Sweden

4.3. IDENTIFICATION OF ITEM/ITEMS EVALUATED

Product: Ericsson Mobile Broadband Module

Trade mark: Ericsson Model: F3607gw FCC ID: VV7-MBMF3607GW2

Manufacturer: Ericsson AB

Country of manufacture: China

Host platform: Generic host platforms covering 7 different collocation scenarios

Description: 2G (GSM/GPRS/EDGE Class 10: 850/900/1800/1900 MHz) and 3G

(HSDPA/HSUPA/WCDMA Release 6: FDD I, FDD II, FDD VIII) module installed in

generic host platforms covering 7 different collocation scenarios.

5. EVALUATION RESULTS

Abbreviations used in the VERDICT column of the following tables are:

C Compliant with requirements

NC Not Compliant with requirements

NA Not Applicable

NE Not Evaluated

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5.1. RESULTS FOR ITEM EVALUATED TRANSMITTING ALONE

DOCUMENT/STANDARD -		VERDICT		
		C	NC	NE
OET Bulletin 65 Edition 97-01 August 1997 - Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields		C		
FCC 47 CFR § 1.1307 - Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.		C		
FCC 47 CFR § 1.1310 - Radiofrequency radiation exposure limits.				
1999/519/EC Council Recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)		C		
Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003				
ARPANSA RPS No. 3 – Maximum Exposure Levels to Radiofrequency Fields (3 kHz to 300 GHz)		C		
AS 2772.2-1998: Radiofrequency radiation - Part 2: Principles and methods of measurement - 300 kHz to 100 GHz				
Vodafone requirements [1999/519/EC]		С		

5.2. RESULTS FOR ITEM EVALUATED TRANSMITTING SIMULTANEOUSLY WITH OTHER COLLOCATED TRANSMITTERS

DOCUMENT/STANDARD -		VERDICT		
		C	NC	NE
OET Bulletin 65 Edition 97-01 August 1997 - Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields		C		
FCC 47 CFR § 1.1307 - Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared. FCC 47 CFR § 1.1310 - Radiofrequency radiation exposure limits.		С		
1999/519/EC Council Recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)		С		
Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003 ARPANSA RPS No. 3 – Maximum Exposure Levels to Radiofrequency Fields (3 kHz to 300 GHz) AS 2772.2-1998: Radiofrequency radiation - Part 2: Principles and methods of measurement - 300 kHz to 100 GHz		С		
Vodafone requirements [1999/519/EC]		С		

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6. REMARKS AND COMMENTS

GSM and GPRS modes have been evaluated together because both modes share the same power class and modulation scheme in the uplink.

The equipment is also commercialised under other FCC ID with the following structure:

FCC ID: VV7-MBMF3607GW2-X

Where **X** is a letter identifying variants of the product.

Providing the changes in these variants do not affect to certified parameters, this report will be also applicable to them.

7. SUMMARY

Considering the results of the performed analysis and evaluation, stated in annexes A and B, the item under evaluation is **IN COMPLIANCE** with the specifications listed in section 3.1 "SERVICES REQUESTED".

NOTE: The results presented in this report apply only to the particular item under evaluation established in section "4.3. IDENTIFICATION OF ITEM/ITEMS EVALUATED" of this document, as presented for evaluation by the applicant.

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ANNEX A

HOST PLATFORMS ANALYSIS

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A.1. SCENARIO 1

Scenario 1 covers a host device where the F3607gw Ericsson Mobile Broadband Module is in mobile exposure conditions (antenna-to-user distance > 20 cm) and it is collocated with a Bluetooth transmitter (F3607gw antenna-to-Bluetooth antenna distance < 20 cm) which is also in mobile exposure conditions. Other transmitters may be installed in the same host platform but they are not collocated with F3607gw Ericsson Mobile Broadband Module.

MAIN/PRIMARY TRANSMITTER:

WWAN transmitter:

Type of equipment : Ericsson Mobile Broadband Module

Trade mark : Ericsson Model : F3607gw

FCC ID : VV7-MBMF3607GW2

Maximum antenna gain : Low bands: 4.65 dBi // High bands: 7.40 dBi

Output power : See table below

Frequency Band	Mode	Frequency range (MHz)	Maximum conducted output power (dBm)	Maximum conducted output power (mW)	Duty Cycle	Equivalent conducted output power (mW)	Maximum antenna gain (dBi)	Maximum antenna gain (numerical)	EIRP (mW)
GSM 850	GSM/GPRS	824,2 - 848,8	32,19	1655,77	25%	413,94	4,65	2,92	1207,65
GSM 830	EDGE	824,2 - 848,8	28,89	774,46	25%	193,62	4,65	2,92	564,86
E-GSM 900	GSM/GPRS	880,2 - 914,6	32,10	1621,81	25%	405,45	4,65	2,92	1182,88
E-G5W 900	EDGE	880,2 - 914,7	27,00	501,19	25%	125,30	4,65	2,92	365,54
	WCDMA	882,4 - 912,6	23,28	212,81	25%	53,20	4,65	2,92	155,22
FDD VIII	HSDPA	882,4 - 912,7	23,17	207,49	25%	51,87	4,65	2,92	151,34
	HSUPA	882,4 - 912,8	22,52	178,65	25%	44,66	4,65	2,92	130,30
DCS 1800	GSM/GPRS	1710,2 - 1784,8	28,70	741,31	25%	185,33	7,40	5,50	1018,45
DCS 1800	EDGE	1710,2 - 1784,8	23,16	207,01	25%	51,75	7,40	5,50	284,41
PCS 1900	GSM/GPRS	1850,2 - 1909,8	29,37	864,97	25%	216,24	7,40	5,50	1188,34
FCS 1900	EDGE	1850,2 - 1909,8	27,84	608,14	25%	152,03	7,40	5,50	835,49
	WCDMA	1852,4 - 1907,6	22,47	176,60	100%	176,60	7,40	5,50	970,51
FDD II	HSDPA	1852,4 - 1907,7	22,62	182,81	100%	182,81	7,40	5,50	1004,62
	HSUPA	1852,4 - 1907,6	22,39	173,38	100%	173,38	7,40	5,50	952,80
	WCDMA	1922,4 - 1977,6	23,24	210,86	100%	210,86	7,40	5,50	1158,78
FDD I	HSDPA	1922,4 - 1977,7	23,16	207,01	100%	207,01	7,40	5,50	1137,63
	HSUPA	1922,4 - 1977,6	23,02	200,45	100%	200,45	7,40	5,50	1101,54

ADDITIONAL/SECONDARY TRANSMITTERS:

Bluetooth transmitter:

Type of equipment : Bluetooth ¹

Trade mark : Any Model : Any FCC ID : Any

Output power : See table below

Scenario 1							
Type of transmitter	Maximum EIRP (mW)	Duty Cycle	EIRP (mW)				
Bluetooth	100	76%	76,43				

¹ It could be also Bluetooth + UWB transmitter)
UWB contribution does not need to be considered.

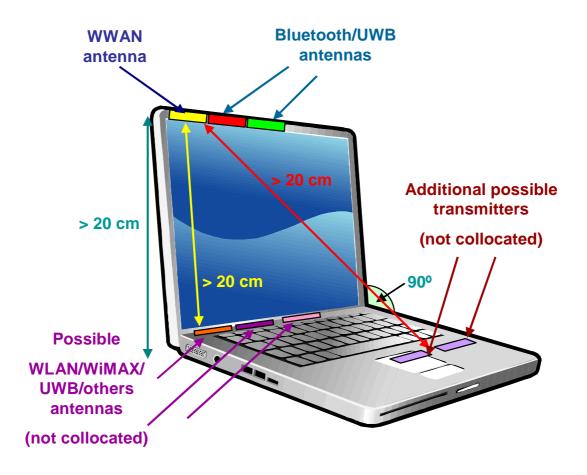
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WORST CASE CONSIDERATIONS:

- Antenna-to-user distance: 20 cm.
 - o Any antenna-to-user distance > 20 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- F3607gw antenna gains: Low bands: 4.65 dBi // High bands: 7.40 dBi
 - o Any antenna gains below the specified would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- Bluetooth EIRP: 100 mW
 - Any Bluetooth (or Bluetooth + UWB) transmitter with EIRP below 100 mW would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- Antenna-to-antenna distances: 0 cm
 - Any antenna-to-antenna distance > 0 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.

SAMPLE CONFIGURATION:



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A.2. SCENARIO 2

Scenario 2 covers a host device where the F3607gw Ericsson Mobile Broadband Module is in mobile exposure conditions (antenna-to-user distance > 20 cm) and it is collocated with a WLAN transmitter (F3607gw antenna-to-WLAN antenna distance < 20 cm) which is also in mobile exposure conditions.

WLAN transmitter may have other antennas in portable exposure conditions but they are not collocated with F3607gw Ericsson Mobile Broadband Module antenna.

Other transmitters may be installed in the same host platform but they are not collocated with F3607gw Ericsson Mobile Broadband Module.

MAIN/PRIMARY TRANSMITTER:

WWAN transmitter:

Type of equipment : Ericsson Mobile Broadband Module

Trade mark : Ericsson Model : F3607gw

FCC ID : VV7-MBMF3607GW2

Maximum antenna gain : Low bands: 4.65 dBi // High bands: 7.40 dBi

Output power : See table below

Frequency Band	Mode	Frequency range (MHz)	Maximum conducted output power (dBm)	Maximum conducted output power (mW)	Duty Cycle	Equivalent conducted output power (mW)	Maximum antenna gain (dBi)	Maximum antenna gain (numerical)	EIRP (mW)
GSM 850	GSM/GPRS	824,2 - 848,8	32,19	1655,77	25%	413,94	4,65	2,92	1207,65
GSIM 930	EDGE	824,2 - 848,8	28,89	774,46	25%	193,62	4,65	2,92	564,86
E-GSM 900	GSM/GPRS	880,2 - 914,6	32,10	1621,81	25%	405,45	4,65	2,92	1182,88
E-G5WI 900	EDGE	880,2 - 914,7	27,00	501,19	25%	125,30	4,65	2,92	365,54
	WCDMA	882,4 - 912,6	23,28	212,81	25%	53,20	4,65	2,92	155,22
FDD VIII	HSDPA	882,4 - 912,7	23,17	207,49	25%	51,87	4,65	2,92	151,34
	HSUPA	882,4 - 912,8	22,52	178,65	25%	44,66	4,65	2,92	130,30
DCS 1800	GSM/GPRS	1710,2 - 1784,8	28,70	741,31	25%	185,33	7,40	5,50	1018,45
DC3 1800	EDGE	1710,2 - 1784,8	23,16	207,01	25%	51,75	7,40	5,50	284,41
PCS 1900	GSM/GPRS	1850,2 - 1909,8	29,37	864,97	25%	216,24	7,40	5,50	1188,34
FCS 1900	EDGE	1850,2 - 1909,8	27,84	608,14	25%	152,03	7,40	5,50	835,49
	WCDMA	1852,4 - 1907,6	22,47	176,60	100%	176,60	7,40	5,50	970,51
FDD II	HSDPA	1852,4 - 1907,7	22,62	182,81	100%	182,81	7,40	5,50	1004,62
	HSUPA	1852,4 - 1907,6	22,39	173,38	100%	173,38	7,40	5,50	952,80
	WCDMA	1922,4 - 1977,6	23,24	210,86	100%	210,86	7,40	5,50	1158,78
FDD I	HSDPA	1922,4 - 1977,7	23,16	207,01	100%	207,01	7,40	5,50	1137,63
	HSUPA	1922,4 - 1977,6	23,02	200,45	100%	200,45	7,40	5,50	1101,54

ADDITIONAL/SECONDARY TRANSMITTERS:

WLAN transmitter:

Type of equipment : WLAN²
Trade mark : Any
Model : Any
FCC ID : Any

Output power : See table below

Scenario 3							
Type of transmitter	Maximum EIRP (mW)	Duty Cycle	EIRP (mW)				
WLAN	2000	100%	2000,00				

² It could be also WLAN/WiMAX combo transmitter where WLAN and WiMAX transmitters do not transmit simultaneously.

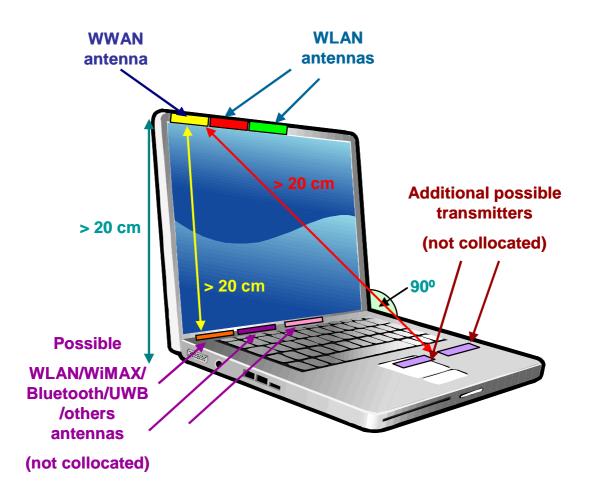
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WORST CASE CONSIDERATIONS:

- Antenna-to-user distance: 20 cm.
 - Any antenna-to-user distance > 20 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- F3607gw antenna gains: Low bands: 4.65 dBi // High bands: 7.40 dBi
 - o Any antenna gains below the specified would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- WLAN EIRP: 2000 mW
 - o Any WLAN transmitter with EIRP below 2000 mW would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- Antenna-to-antenna distances: 0 cm
 - Any antenna-to-antenna distance > 0 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.

SAMPLE CONFIGURATION:



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A.3. SCENARIO 3

Scenario 3 covers a host device where the F3607gw Ericsson Mobile Broadband Module is in mobile exposure conditions (antenna-to-user distance > 20 cm) and it is collocated with a WLAN transmitter and a Bluetooth transmitter (F3607gw antenna-to-WLAN/Bluetooth antenna distance < 20 cm) which are also in mobile exposure conditions.

WLAN transmitter may have other antennas in portable exposure conditions but they are not collocated with F3607gw Ericsson Mobile Broadband Module antenna.

Other transmitters may be installed in the same host platform but they are not collocated with F3607gw Ericsson Mobile Broadband Module.

MAIN/PRIMARY TRANSMITTER:

WWAN transmitter:

Type of equipment : Ericsson Mobile Broadband Module

Trade mark : Ericsson Model : F3607gw

FCC ID : VV7-MBMF3607GW2

Maximum antenna gain : Low bands: 4.65 dBi // High bands: 7.40 dBi

Output power : See table below

Frequency Band	Mode	Frequency range (MHz)	Maximum conducted output power (dBm)	Maximum conducted output power (mW)	Duty Cycle	Equivalent conducted output power (mW)	Maximum antenna gain (dBi)	Maximum antenna gain (numerical)	EIRP (mW)
GSM 850	GSM/GPRS	824,2 - 848,8	32,19	1655,77	25%	413,94	4,65	2,92	1207,65
USIVI 650	EDGE	824,2 - 848,8	28,89	774,46	25%	193,62	4,65	2,92	564,86
E-GSM 900	GSM/GPRS	880,2 - 914,6	32,10	1621,81	25%	405,45	4,65	2,92	1182,88
E-GSM 900	EDGE	880,2 - 914,7	27,00	501,19	25%	125,30	4,65	2,92	365,54
	WCDMA	882,4 - 912,6	23,28	212,81	25%	53,20	4,65	2,92	155,22
FDD VIII	HSDPA	882,4 - 912,7	23,17	207,49	25%	51,87	4,65	2,92	151,34
	HSUPA	882,4 - 912,8	22,52	178,65	25%	44,66	4,65	2,92	130,30
DCS 1800	GSM/GPRS	1710,2 - 1784,8	28,70	741,31	25%	185,33	7,40	5,50	1018,45
DCS 1800	EDGE	1710,2 - 1784,8	23,16	207,01	25%	51,75	7,40	5,50	284,41
PCS 1900	GSM/GPRS	1850,2 - 1909,8	29,37	864,97	25%	216,24	7,40	5,50	1188,34
FCS 1900	EDGE	1850,2 - 1909,8	27,84	608,14	25%	152,03	7,40	5,50	835,49
	WCDMA	1852,4 - 1907,6	22,47	176,60	100%	176,60	7,40	5,50	970,51
FDD II	HSDPA	1852,4 - 1907,7	22,62	182,81	100%	182,81	7,40	5,50	1004,62
	HSUPA	1852,4 - 1907,6	22,39	173,38	100%	173,38	7,40	5,50	952,80
	WCDMA	1922,4 - 1977,6	23,24	210,86	100%	210,86	7,40	5,50	1158,78
FDD I	HSDPA	1922,4 - 1977,7	23,16	207,01	100%	207,01	7,40	5,50	1137,63
	HSUPA	1922,4 - 1977,6	23,02	200,45	100%	200,45	7,40	5,50	1101,54

ADDITIONAL/SECONDARY TRANSMITTERS:

WLAN transmitter:

Type of equipment : WLAN³
Trade mark : Any
Model : Any
FCC ID : Any

Output power : See table below

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Scenario 3					
Type of transmitter	Maximum EIRP (mW)	Duty Cycle	EIRP (mW)		
WLAN	2000	100%	2000,00		

³ It could be also WLAN/WiMAX combo transmitter where WLAN and WiMAX transmitters do not transmit simultaneously.

Bluetooth transmitter:

Type of equipment : Bluetooth 4
Trade mark : Any
Model : Any

FCC ID : Any

Output power : See table below

Scenario 3					
Type of transmitter	Maximum EIRP (mW)	Duty Cycle	EIRP (mW)		
Bluetooth	100	76%	76,43		

⁴ It could be also Bluetooth + UWB transmitter)
UWB contribution does not need to be considered.

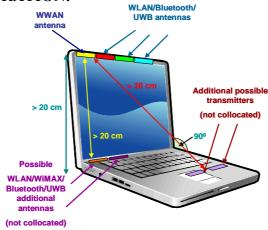
WORST CASE CONSIDERATIONS:

- Antenna-to-user distance: 20 cm.
 - o Any antenna-to-user distance > 20 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- F3607gw antenna gains: Low bands: 4.65 dBi // High bands: 7.40 dBi
 - o Any antenna gains below the specified would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- WLAN EIRP: 2000 mW
 - o Any WLAN transmitter with EIRP below 2000 mW would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- Bluetooth EIRP: 100 mW
 - Any Bluetooth (or Bluetooth + UWB) transmitter with EIRP below 100 mW would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- Antenna-to-antenna distances: 0 cm
 - Any antenna-to-antenna distance > 0 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.

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SAMPLE CONFIGURATION:



A.4. SCENARIO 4

Scenario 4 covers a host device where the F3607gw Ericsson Mobile Broadband Module is in mobile exposure conditions (antenna-to-user distance > 20 cm) and it is collocated with a WiMAX transmitter (F3607gw antenna-to-WiMAX antenna distance < 20 cm) which is also in mobile exposure conditions.

WiMAX transmitter may have other antennas in portable exposure conditions but they are not collocated with F3607gw Ericsson Mobile Broadband Module antenna.

Other transmitters may be installed in the same host platform but they are not collocated with F3607gw Ericsson Mobile Broadband Module.

MAIN/PRIMARY TRANSMITTER:

WWAN transmitter:

Type of equipment : Ericsson Mobile Broadband Module

Trade mark : Ericsson Model : F3607gw

FCC ID : VV7-MBMF3607GW2

Maximum antenna gain : Low bands: 4.65 dBi // High bands: 7.40 dBi

Output power : See table below

Frequency Band	Mode	Frequency range (MHz)	Maximum conducted output power (dBm)	Maximum conducted output power (mW)	Duty Cycle	Equivalent conducted output power (mW)	Maximum antenna gain (dBi)	Maximum antenna gain (numerical)	EIRP (mW)
GSM 850	GSM/GPRS	824,2 - 848,8	32,19	1655,77	25%	413,94	4,65	2,92	1207,65
USINI 830	EDGE	824,2 - 848,8	28,89	774,46	25%	193,62	4,65	2,92	564,86
E-GSM 900	GSM/GPRS	880,2 - 914,6	32,10	1621,81	25%	405,45	4,65	2,92	1182,88
E-GSM 900	EDGE	880,2 - 914,7	27,00	501,19	25%	125,30	4,65	2,92	365,54
	WCDMA	882,4 - 912,6	23,28	212,81	25%	53,20	4,65	2,92	155,22
FDD VIII	HSDPA	882,4 - 912,7	23,17	207,49	25%	51,87	4,65	2,92	151,34
	HSUPA	882,4 - 912,8	22,52	178,65	25%	44,66	4,65	2,92	130,30
DCS 1800	GSM/GPRS	1710,2 - 1784,8	28,70	741,31	25%	185,33	7,40	5,50	1018,45
DCS 1800	EDGE	1710,2 - 1784,8	23,16	207,01	25%	51,75	7,40	5,50	284,41
PCS 1900	GSM/GPRS	1850,2 - 1909,8	29,37	864,97	25%	216,24	7,40	5,50	1188,34
FCS 1900	EDGE	1850,2 - 1909,8	27,84	608,14	25%	152,03	7,40	5,50	835,49
	WCDMA	1852,4 - 1907,6	22,47	176,60	100%	176,60	7,40	5,50	970,51
FDD II	HSDPA	1852,4 - 1907,7	22,62	182,81	100%	182,81	7,40	5,50	1004,62
	HSUPA	1852,4 - 1907,6	22,39	173,38	100%	173,38	7,40	5,50	952,80
	WCDMA	1922,4 - 1977,6	23,24	210,86	100%	210,86	7,40	5,50	1158,78
FDD I	HSDPA	1922,4 - 1977,7	23,16	207,01	100%	207,01	7,40	5,50	1137,63
	HSUPA	1922,4 - 1977,6	23,02	200,45	100%	200,45	7,40	5,50	1101,54

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ADDITIONAL/SECONDARY TRANSMITTERS:

WiMAX transmitter:

Type of equipment : WiMAX⁵
Trade mark : Any
Model : Any
FCC ID : Any

Output power : See table below

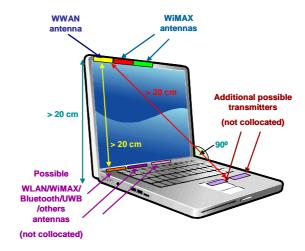
Scenario 4					
Type of transmitter	Maximum EIRP (mW)	Duty Cycle	EIRP (mW)		
WiMAX	2000	100%	2000,00		

⁵ It could be also WLAN/WiMAX combo transmitter where WLAN and WiMAX transmitters do not transmit simultaneously.

WORST CASE CONSIDERATIONS:

- Antenna-to-user distance: 20 cm.
 - O Any antenna-to-user distance > 20 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- F3607gw antenna gains: Low bands: 4,65 dBi // High bands: 7,40 dBi
 - o Any antenna gains below the specified would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- WiMAX EIRP: 2000 mW
 - o Any WiMAX transmitter with EIRP below 2000 mW would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- Antenna-to-antenna distances: 0 cm
 - Any antenna-to-antenna distance > 0 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.

SAMPLE CONFIGURATION:



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A.5. SCENARIO 5

Scenario 5 covers a host device where the F3607gw Ericsson Mobile Broadband Module is in mobile exposure conditions (antenna-to-user distance > 20 cm) and it is collocated with a WiMAX transmitter and a Bluetooth transmitter (F3607gw antenna-to-WiMAX/Bluetooth antenna distance < 20 cm) which are also in mobile exposure conditions.

WiMAX transmitter may have other antennas in portable exposure conditions but they are not collocated with F3607gw Ericsson Mobile Broadband Module antenna.

Other transmitters may be installed in the same host platform but they are not collocated with F3607gw Ericsson Mobile Broadband Module.

MAIN/PRIMARY TRANSMITTER:

WWAN transmitter:

Type of equipment : Ericsson Mobile Broadband Module

Trade mark : Ericsson Model : F3607gw

FCC ID : VV7-MBMF3607GW2

Maximum antenna gain : Low bands: 4.65 dBi // High bands: 7.40 dBi

Output power : See table below

Frequency Band	Mode	Frequency range (MHz)	Maximum conducted output power (dBm)	Maximum conducted output power (mW)	Duty Cycle	Equivalent conducted output power (mW)	Maximum antenna gain (dBi)	Maximum antenna gain (numerical)	EIRP (mW)
GSM 850	GSM/GPRS	824,2 - 848,8	32,19	1655,77	25%	413,94	4,65	2,92	1207,65
GSM 830	EDGE	824,2 - 848,8	28,89	774,46	25%	193,62	4,65	2,92	564,86
E-GSM 900	GSM/GPRS	880,2 - 914,6	32,10	1621,81	25%	405,45	4,65	2,92	1182,88
E-GSM 900	EDGE	880,2 - 914,7	27,00	501,19	25%	125,30	4,65	2,92	365,54
	WCDMA	882,4 - 912,6	23,28	212,81	25%	53,20	4,65	2,92	155,22
FDD VIII	HSDPA	882,4 - 912,7	23,17	207,49	25%	51,87	4,65	2,92	151,34
	HSUPA	882,4 - 912,8	22,52	178,65	25%	44,66	4,65	2,92	130,30
DCS 1800	GSM/GPRS	1710,2 - 1784,8	28,70	741,31	25%	185,33	7,40	5,50	1018,45
DCS 1800	EDGE	1710,2 - 1784,8	23,16	207,01	25%	51,75	7,40	5,50	284,41
PCS 1900	GSM/GPRS	1850,2 - 1909,8	29,37	864,97	25%	216,24	7,40	5,50	1188,34
FCS 1900	EDGE	1850,2 - 1909,8	27,84	608,14	25%	152,03	7,40	5,50	835,49
	WCDMA	1852,4 - 1907,6	22,47	176,60	100%	176,60	7,40	5,50	970,51
FDD II	HSDPA	1852,4 - 1907,7	22,62	182,81	100%	182,81	7,40	5,50	1004,62
	HSUPA	1852,4 - 1907,6	22,39	173,38	100%	173,38	7,40	5,50	952,80
	WCDMA	1922,4 - 1977,6	23,24	210,86	100%	210,86	7,40	5,50	1158,78
FDD I	HSDPA	1922,4 - 1977,7	23,16	207,01	100%	207,01	7,40	5,50	1137,63
Г	HSUPA	1922,4 - 1977,6	23,02	200,45	100%	200,45	7,40	5,50	1101,54

ADDITIONAL/SECONDARY TRANSMITTERS:

WiMAX transmitter:

Type of equipment : WiMAX ⁶
Trade mark : Any
Model : Any
FCC ID : Any

Output power : See table below

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Scenario 5					
Type of transmitter	Maximum EIRP (mW)	Duty Cycle	EIRP (mW)		
WiMAX	2000	100%	2000,00		

⁶ It could be also WLAN/WiMAX combo transmitter where WLAN and WiMAX transmitters do not transmit simultaneously.

Bluetooth transmitter:

Type of equipment : Bluetooth ⁷
Trade mark : Any
Model : Any
FCC ID : Any

Output power : See table below

Scenario 5					
Type of transmitter	Maximum EIRP (mW)	Duty Cycle	EIRP (mW)		
Bluetooth	100	76%	76,43		

⁷ It could be also Bluetooth + UWB transmitter)
UWB contribution does not need to be considered.

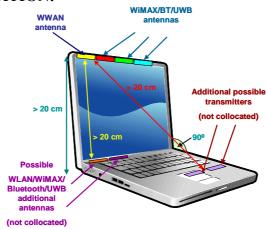
WORST CASE CONSIDERATIONS:

- Antenna-to-user distance: 20 cm.
 - Any antenna-to-user distance > 20 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- F3607gw antenna gains: Low bands: 4.65 dBi // High bands: 7.40 dBi
 - o Any antenna gains below the specified would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- WiMAX EIRP: 2000 mW
 - o Any WiMAX transmitter with EIRP below 2000 mW would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- Bluetooth EIRP: 100 mW
 - Any Bluetooth (or Bluetooth + UWB) transmitter with EIRP below 100 mW would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- Antenna-to-antenna distances: 0 cm
 - O Any antenna-to-antenna distance > 0 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.

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SAMPLE CONFIGURATION:



A.6. SCENARIO 6

Scenario 6 covers a host device where the F3607gw Ericsson Mobile Broadband Module is in mobile exposure conditions (antenna-to-user distance > 20 cm) and it is collocated with a WLAN transmitter and a WiMAX transmitter (F3607gw antenna-to-WLAN/WiMAX antenna distance < 20 cm) which are also in mobile exposure conditions.

WLAN/WiMAX transmitters may have other antennas in portable exposure conditions but they are not collocated with F3607gw Ericsson Mobile Broadband Module antenna.

Other transmitters may be installed in the same host platform but they are not collocated with F3607gw Ericsson Mobile Broadband Module.

MAIN/PRIMARY TRANSMITTER:

WWAN transmitter:

Type of equipment : Ericsson Mobile Broadband Module

Trade mark : Ericsson Model : F3607gw

FCC ID : VV7-MBMF3607GW2

Maximum antenna gain : Low bands: 4.65 dBi // High bands: 7.40 dBi

Output power : See table below

Frequency Band	Mode	Frequency range (MHz)	Maximum conducted output power (dBm)	Maximum conducted output power (mW)	Duty Cycle	Equivalent conducted output power (mW)	Maximum antenna gain (dBi)	Maximum antenna gain (numerical)	EIRP (mW)
GSM 850	GSM/GPRS	824,2 - 848,8	32,19	1655,77	25%	413,94	4,65	2,92	1207,65
USIVI 830	EDGE	824,2 - 848,8	28,89	774,46	25%	193,62	4,65	2,92	564,86
E-GSM 900	GSM/GPRS	880,2 - 914,6	32,10	1621,81	25%	405,45	4,65	2,92	1182,88
E-GSM 900	EDGE	880,2 - 914,7	27,00	501,19	25%	125,30	4,65	2,92	365,54
	WCDMA	882,4 - 912,6	23,28	212,81	25%	53,20	4,65	2,92	155,22
FDD VIII	HSDPA	882,4 - 912,7	23,17	207,49	25%	51,87	4,65	2,92	151,34
	HSUPA	882,4 - 912,8	22,52	178,65	25%	44,66	4,65	2,92	130,30
DCS 1800	GSM/GPRS	1710,2 - 1784,8	28,70	741,31	25%	185,33	7,40	5,50	1018,45
DCS 1800	EDGE	1710,2 - 1784,8	23,16	207,01	25%	51,75	7,40	5,50	284,41
PCS 1900	GSM/GPRS	1850,2 - 1909,8	29,37	864,97	25%	216,24	7,40	5,50	1188,34
FCS 1900	EDGE	1850,2 - 1909,8	27,84	608,14	25%	152,03	7,40	5,50	835,49
	WCDMA	1852,4 - 1907,6	22,47	176,60	100%	176,60	7,40	5,50	970,51
FDD II	HSDPA	1852,4 - 1907,7	22,62	182,81	100%	182,81	7,40	5,50	1004,62
	HSUPA	1852,4 - 1907,6	22,39	173,38	100%	173,38	7,40	5,50	952,80
FDD I	WCDMA	1922,4 - 1977,6	23,24	210,86	100%	210,86	7,40	5,50	1158,78
	HSDPA	1922,4 - 1977,7	23,16	207,01	100%	207,01	7,40	5,50	1137,63
	HSUPA	1922,4 - 1977,6	23,02	200,45	100%	200,45	7,40	5,50	1101,54

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ADDITIONAL/SECONDARY TRANSMITTERS:

WLAN/WiMAX transmitter:

Type of equipment : WLAN / WiMAX

Trade mark : Any Model : Any FCC ID : Any

Output power : See table below

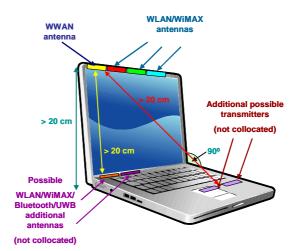
Scenario 6						
Type of transmitter	Maximum EIRP (mW)	Duty Cycle	EIRP (mW)			
WLAN	2000 8	100%	2000,00			

⁸ Aggregated EIRP of WLAN and WiMAX transmitters

WORST CASE CONSIDERATIONS:

- Antenna-to-user distance: 20 cm.
 - Any antenna-to-user distance > 20 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- F3607gw antenna gains: Low bands: 4.65 dBi // High bands: 7.40 dBi
 - o Any antenna gains below the specified would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- WLAN EIRP + WiMAX EIRP: 2000 mW
 - Any WLAN transmitter and WiMAX transmitters with aggregated EIRP below 2000 mW would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- Antenna-to-antenna distances: 0 cm
 - Any antenna-to-antenna distance > 0 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.

SAMPLE CONFIGURATION:



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A.7. SCENARIO 7

Scenario 6 covers a host device where the F3607gw Ericsson Mobile Broadband Module is in mobile exposure conditions (antenna-to-user distance > 20 cm) and it is collocated with a WLAN transmitter a WiMAX transmitter and a Bluetooth transmitter (F3607gw antenna-to-WLAN/WiMAX/Bluetooth antenna distance < 20 cm) which are also in mobile exposure conditions.

WLAN/WiMAX transmitters may have other antennas in portable exposure conditions but they are not collocated with F3607gw Ericsson Mobile Broadband Module antenna.

Other transmitters may be installed in the same host platform but they are not collocated with F3607gw Ericsson Mobile Broadband Module.

MAIN/PRIMARY TRANSMITTER:

WWAN transmitter:

Type of equipment : Ericsson Mobile Broadband Module

Trade mark : Ericsson Model : F3607gw

FCC ID : VV7-MBMF3607GW2

Maximum antenna gain : Low bands: 4.65 dBi // High bands: 7.40 dBi

Output power : See table below

Frequency Band	Mode	Frequency range (MHz)	Maximum conducted output power (dBm)	Maximum conducted output power (mW)	Duty Cycle	Equivalent conducted output power (mW)	Maximum antenna gain (dBi)	Maximum antenna gain (numerical)	EIRP (mW)
GSM 850	GSM/GPRS	824,2 - 848,8	32,19	1655,77	25%	413,94	4,65	2,92	1207,65
GSM 650	EDGE	824,2 - 848,8	28,89	774,46	25%	193,62	4,65	2,92	564,86
E-GSM 900	GSM/GPRS	880,2 - 914,6	32,10	1621,81	25%	405,45	4,65	2,92	1182,88
E-G5WI 900	EDGE	880,2 - 914,7	27,00	501,19	25%	125,30	4,65	2,92	365,54
	WCDMA	882,4 - 912,6	23,28	212,81	25%	53,20	4,65	2,92	155,22
FDD VIII	HSDPA	882,4 - 912,7	23,17	207,49	25%	51,87	4,65	2,92	151,34
	HSUPA	882,4 - 912,8	22,52	178,65	25%	44,66	4,65	2,92	130,30
DCS 1800	GSM/GPRS	1710,2 - 1784,8	28,70	741,31	25%	185,33	7,40	5,50	1018,45
DC3 1800	EDGE	1710,2 - 1784,8	23,16	207,01	25%	51,75	7,40	5,50	284,41
PCS 1900	GSM/GPRS	1850,2 - 1909,8	29,37	864,97	25%	216,24	7,40	5,50	1188,34
1 C3 1900	EDGE	1850,2 - 1909,8	27,84	608,14	25%	152,03	7,40	5,50	835,49
	WCDMA	1852,4 - 1907,6	22,47	176,60	100%	176,60	7,40	5,50	970,51
FDD II	HSDPA	1852,4 - 1907,7	22,62	182,81	100%	182,81	7,40	5,50	1004,62
	HSUPA	1852,4 - 1907,6	22,39	173,38	100%	173,38	7,40	5,50	952,80
FDD I	WCDMA	1922,4 - 1977,6	23,24	210,86	100%	210,86	7,40	5,50	1158,78
	HSDPA	1922,4 - 1977,7	23,16	207,01	100%	207,01	7,40	5,50	1137,63
	HSUPA	1922,4 - 1977,6	23,02	200,45	100%	200,45	7,40	5,50	1101,54

WLAN/WiMAX transmitter:

Type of equipment : WLAN / WiMAX

Trade mark : Any Model : Any FCC ID : Any

Output power : See table below

Scenario 6						
Type of transmitter	Maximum EIRP (mW)	Duty Cycle	EIRP (mW)			
WLAN	2000 9	100%	2000,00			

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Bluetooth transmitter:

Type of equipment : Bluetooth 10

Trade mark : Any Model : Any FCC ID : Any

Output power : See table below

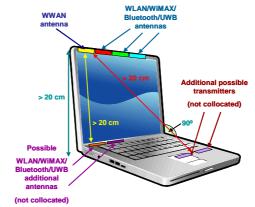
Scenario 5						
Type of transmitter	Maximum EIRP (mW)	Duty Cycle	EIRP (mW)			
Bluetooth	100	76%	76,43			

¹⁰ It could be also Bluetooth + UWB transmitter)
UWB contribution does not need to be considered.

WORST CASE CONSIDERATIONS:

- Antenna-to-user distance: 20 cm.
 - o Any antenna-to-user distance > 20 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- F3607gw antenna gains: Low bands: 4.65 dBi // High bands: 7.40 dBi
 - o Any antenna gains below the specified would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- WLAN EIRP + WiMAX EIRP: 2000 mW
 - Any WLAN transmitter and WiMAX transmitters with aggregated EIRP below 2000 mW would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- Bluetooth EIRP: 100 mW
 - Any Bluetooth (or Bluetooth + UWB) transmitter with EIRP below 100 mW would be covered by the analysis included in this report as far as it would provide better exposure conditions.
- Antenna-to-antenna distances: 0 cm
 - \circ Any antenna-to-antenna distance > 0 cm would be covered by the analysis included in this report as far as it would provide better exposure conditions.

SAMPLE CONFIGURATION:



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⁹ Aggregated EIRP of WLAN and WiMAX transmitters



Annex B

ANNEX B

RF EXPOSURE ASSESSMENT

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B.1. MAXIMUM PERMISSIBLE EXPOSURE (MPE) LIMITS

B.1.1. FCC LIMITS

Normative documents:

- OET Bulletin 65 Edition 97-01 August 1997 Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields
- FCC 47 CFR § 1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.
- FCC 47 CFR § 1.1310 Radiofrequency radiation exposure limits.1999/519/EC Council Recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)

Reference levels:

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure:

Frequency Range (MHz)	Power density $(\frac{W}{m^2})$	Averaging time (minutes)
300 – 1500	f(MHz)	30
	1500	
1500 - 100.000	1.0	30

MPE limits:

- Main/Primary transmitter (F3607gw Ericsson Mobile Broadband Module):

Frequency Band	Mode	Frequency Range (MHz)	Reference frequency (MHz)	$MPE \ limit (S_{eq}) \\ (\frac{mW}{cm^2})$
GSM 850	GSM/GPRS	824,2 - 848,8	824,20	0,5495
	EDGE	824,2 - 848,8	824,20	0,5495
PCS 1900	GSM/GPRS	1850,2 - 1909,8	1850,20	1,0000
	EDGE	1850,2 - 1909,8	1850,20	1,0000
	WCDMA	1852,4 - 1907,6	1852,40	1,0000
FDD II	HSDPA	1852,4 - 1907,7	1852,40	1,0000
	HSUPA	1852,4 - 1907,6	1852,40	1,0000

- Additional/Secondary transmitters: All the transmission frequencies for collocated transmitter modules are above 1.5 GHz, so that the MPE limit is 1 mW/cm².

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B.1.2. EUROPEAN UNION MPE LIMITS

Normative document:

- 1999/519/EC Council Recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)

Reference levels:

The table below is excerpted from Table 2 of 1999/519/EC, titled "Reference levels for electric, magnetic and electromagnetic fields (0 Hz to 300 GHz, unperturbed rms values)":

Frequency range	E-field strength $(\frac{V}{m})$	H-field strength $(\frac{A}{m})$	B-field (μT)	Equivalent plane wave power density S_{eq} $(\frac{W}{m^2})$
400 - 2000 MHz	$1{,}375 \cdot f(MHz)^{1/2}$	$0,0037 \cdot f(MHz)^{1/2}$	$0,0046 \cdot f(MHz)^{1/2}$	$\frac{f(MHz)}{200}$
2 - 300 GHz	61	0,16	0,2	10

MPE limits:

- Main/Primary transmitter (F3607gw Ericsson Mobile Broadband Module):

Frequency Band	Mode	Frequency Range (MHz)	Reference frequency (MHz)	$MPE limit (S_{eq}) (\frac{mW}{cm^2})$
E-GSM 900	GSM/GPRS	880,2 - 914,6	880,20	0,4401
L-G5W1 900	EDGE	880,2 - 914,7	880,20	0,4401
	WCDMA	882,4 - 912,6	882,40	0,4412
FDD VIII	HSDPA	882,4 - 912,7	882,40	0,4412
	HSUPA	882,4 - 912,8	882,40	0,4412
DCS 1800	GSM/GPRS	1710,2 - 1784,8	1710,20	0,8551
DCS 1800	EDGE	1710,2 - 1784,8	1710,20	0,8551
	WCDMA	1922,4 - 1977,6	1922,40	0,9612
FDD I	HSDPA	1922,4 - 1977,7	1922,40	0,9612
	HSUPA	1922,4 - 1977,6	1922,40	0,9612

- Additional/Secondary transmitters: All the transmission frequencies for collocated transmitter modules are above 2 GHz, so that the MPE limit is 1 mW/cm².

B.1.3. AUSTRALIA MPE LIMITS

Normative documents:

- Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003

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- ARPANSA RPS No. 3 Maximum Exposure Levels to Radiofrequency Fields (3 kHz to 300 GHz)
- AS 2772.2-1998: Radiofrequency radiation Part 2: Principles and methods of measurement 300 kHz to 100 GHz

Reference levels:

The table below is excerpted from Table 7 of ARPANSA RPS No. 3, titled "Reference levels for time averaged exposure to RMS electric and magnetic fields (unperturbed rms values)":

Exposure category	Frequency range	E-field strength $(\frac{V}{m} \text{ rms})$	H-field strength $(\frac{A}{m} \text{ rms})$	Equivalent plane wave power density $\frac{S_{eq}}{\left(\frac{W}{m^2}\right)}$	Equivalent plane wave power density S_{eq} $(\frac{mW}{cm^2})$
General public	400 MHz - 2 GHz	$1,37 \cdot f(MHz)^{1/2}$	$0,00364 \cdot f(MHz)^{1/2}$	$\frac{f(MHz)}{200}$	$\frac{f(MHz)}{2000}$
General public	2 - 300 GHz	61	0,16	10	1

MPE limits:

- Main/Primary transmitter (F3607gw Ericsson Mobile Broadband Module):

Frequency Band	Mode	Frequency Range (MHz)	Reference frequency (MHz)	$MPE \ limit (S_{eq}) \\ (\frac{mW}{cm^2})$
E-GSM 900	GSM/GPRS	880,2 - 914,6	880,20	0,4401
E-GSM 900	EDGE	880,2 - 914,7	880,20	0,4401
DCS 1800	GSM/GPRS	1710,2 - 1784,8	1710,20	0,8551
DCS 1800	EDGE	1710,2 - 1784,8	1710,20	0,8551
	WCDMA	1922,4 - 1977,6	1922,40	0,9612
FDD I	HSDPA	1922,4 - 1977,7	1922,40	0,9612
	HSUPA	1922,4 - 1977,6	1922,40	0,9612

- Additional/Secondary transmitters: All the transmission frequencies for collocated transmitter modules are above 2 GHz, so that the MPE limit is 1 mW/cm².

B.1.4. VODAFONE MPE LIMITS

Normative document:

- 1999/519/EC Council Recommendation on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)

Reference levels:

The table below is excerpted from Table 2 of 1999/519/EC, titled "Reference levels for electric, magnetic and electromagnetic fields (0 Hz to 300 GHz, unperturbed rms values)":

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Exposure category	Frequency range	E-field strength $(\frac{V}{m} \text{ rms})$	H-field strength $(\frac{A}{m} \text{ rms})$	Equivalent plane wave power density $\frac{S_{eq}}{\left(\frac{W}{m^2}\right)}$	Equivalent plane wave power density S_{eq} $(\frac{mW}{cm^2})$
General public	400 MHz - 2 GHz	$1{,}37\cdot f(MHz)^{1/2}$	$0,00364 \cdot f(MHz)^{1/2}$	$\frac{f(MHz)}{200}$	$\frac{f(MHz)}{2000}$
General public	2 - 300 GHz	61	0,16	10	1

MPE limits:

- Main/Primary transmitter (F3607gw Ericsson Mobile Broadband Module):

Frequency Band	Mode	Frequency Range (MHz)	Reference frequency (MHz)	$MPE limit (S_{Lim}) (\frac{mW}{cm^2})$
GSM 850	GSM/GPRS	824,2 - 848,8	824,20	0,4121
G5W 650	EDGE	824,2 - 848,8	824,20	0,4121
E-GSM 900	GSM/GPRS	880,2 - 914,6	880,20	0,4401
E-GSM 900	EDGE	880,2 - 914,7	880,20	0,4401
	WCDMA	882,4 - 912,6	882,40	0,4412
FDD VIII	HSDPA	882,4 - 912,7	882,40	0,4412
	HSUPA	882,4 - 912,8	882,40	0,4412
DCS 1800	GSM/GPRS	1710,2 - 1784,8	1710,20	0,8551
DCS 1800	EDGE	1710,2 - 1784,8	1710,20	0,8551
PCS 1900	GSM/GPRS	1850,2 - 1909,8	1850,20	0,9251
103 1900	EDGE	1850,2 - 1909,8	1850,20	0,9251
	WCDMA	1852,4 - 1907,6	1852,40	0,9262
FDD II	HSDPA	1852,4 - 1907,7	1852,40	0,9262
	HSUPA	1852,4 - 1907,6	1852,40	0,9262
	WCDMA	1922,4 - 1977,6	1922,40	0,9612
FDD I	HSDPA	1922,4 - 1977,7	1922,40	0,9612
	HSUPA	1922,4 - 1977,6	1922,40	0,9612

- Additional/Secondary transmitters: All the transmission frequencies for WLAN and Bluetooth modules are above 2 GHz, so that the MPE limit is 1 mW/cm².

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B.2. RF EXPOSURE ASSESSMENT – INDIVIDUAL TRANSMITTERS

B.2.1. INTRODUCTION

Calculations to predict power density levels in the far-field of the antenna are made by use of the following equation:

$$S = \frac{P \cdot G}{4\pi R^2} = \frac{EIRP}{4\pi R^2}$$

where: $S = power density (in appropriate units, e.g. <math>mW/cm^2$)

P = power input to the antenna (in appropriate units, e.g., mW)

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

B.2.2. RF EXPOSURE ASSESSMENT FOR F3607GW ERICSSON MOBILE BROADBAND MODULE INSTALLED IN GENERIC HOST PLATFORMS

FCC REQUIREMENTS

Frequency Band	Mode	Frequency Range (MHz)	EIRP (mW)	Evaluation distance (R) (cm)	Power Density (S _{eq}) $S = \frac{P \cdot G}{4\pi R^2} = \frac{EIRP}{4\pi R^2}$ $\left(\frac{\mathbf{mW}}{\mathbf{cm}^2}\right)$	MPE limit (S _{Lim}) (mW/cm²)	$\begin{aligned} & COMPLIANCE \\ & (S_{eq} < S_{Lim}) \\ & (\frac{mW}{cm^2}) \end{aligned}$
GSM 850	GSM/GPRS	824,2 - 848,8	1207,65	20,00	0,2403	0,5495	COMPLIANT
GSIM 630	EDGE	824,2 - 848,8	564,86	20,00	0,1124	0,5495	COMPLIANT
PCS 1900	GSM/GPRS	1850,2 - 1909,8	1188,34	20,00	0,2364	1,0000	COMPLIANT
PCS 1900	EDGE	1850,2 - 1909,8	835,49	20,00	0,1662	1,0000	COMPLIANT
	WCDMA	1852,4 - 1907,6	970,51	20,00	0,1931	1,0000	COMPLIANT
FDD II	HSDPA	1852,4 - 1907,7	1004,62	20,00	0,1999	1,0000	COMPLIANT
	HSUPA	1852,4 - 1907,6	952,80	20,00	0,1896	1,0000	COMPLIANT

EUROPEAN UNION REQUIREMENTS

Frequency Band	Mode	Frequency Range (MHz)	EIRP (mW)	Evaluation distance (R) (cm)	Power Density (S_{eq}) $S = \frac{P \cdot G}{4\pi R^2} = \frac{EIRP}{4\pi R^2}$ $\left(\frac{mW}{cm^2}\right)$	MPE limit (S _{Lim}) (mW/cm²)	$\begin{aligned} & \text{COMPLIANCE} \\ & (S_{eq} < S_{\text{Lim}}) \\ & (\frac{\text{mW}}{\text{cm}^2}) \end{aligned}$
E-GSM 900	GSM/GPRS	880,2 - 914,6	1182,88	20,00	0,2353	0,4401	COMPLIANT
E-05W 900	EDGE	880,2 - 914,7	365,54	20,00	0,0727	0,4401	COMPLIANT
	WCDMA	882,4 - 912,6	155,22	20,00	0,0309	0,4412	COMPLIANT
FDD VIII	HSDPA	882,4 - 912,7	151,34	20,00	0,0301	0,4412	COMPLIANT
	HSUPA	882,4 - 912,8	130,30	20,00	0,0259	0,4412	COMPLIANT
DCS 1800	GSM/GPRS	1710,2 - 1784,8	1018,45	20,00	0,2026	0,8551	COMPLIANT
DCS 1800	EDGE	1710,2 - 1784,8	284,41	20,00	0,0566	0,8551	COMPLIANT
	WCDMA	1922,4 - 1977,6	1158,78	20,00	0,2305	0,9612	COMPLIANT
FDD I	HSDPA	1922,4 - 1977,7	1137,63	20,00	0,2263	0,9612	COMPLIANT
	HSUPA	1922,4 - 1977,6	1101,54	20,00	0,2191	0,9612	COMPLIANT

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AUSTRALIA REQUIREMENTS

Frequency Band	Mode	Frequency Range (MHz)	EIRP (mW)	Evaluation distance (R) (cm)	Power Density (S _{eq}) $S = \frac{P \cdot G}{4\pi R^2} = \frac{EIRP}{4\pi R^2}$ $\left(\frac{\mathbf{mW}}{\mathbf{cm}^2}\right)$	MPE limit (S _{Lim}) (mW/cm²)	$\begin{aligned} & \textbf{COMPLIANCE} \\ & (S_{eq} < S_{Lim}) \\ & (\frac{mW}{cm^2}) \end{aligned}$
E-GSM 900	GSM/GPRS	880,2 - 914,6	1182,88	20,00	0,2353	0,4401	COMPLIANT
L-GSWI 900	EDGE	880,2 - 914,7	365,54	20,00	0,0727	0,4401	COMPLIANT
DCS 1800	GSM/GPRS	1710,2 - 1784,8	1018,45	20,00	0,2026	0,8551	COMPLIANT
DCS 1800	EDGE	1710,2 - 1784,8	284,41	20,00	0,0566	0,8551	COMPLIANT
	WCDMA	1922,4 - 1977,6	1158,78	20,00	0,2305	0,9612	COMPLIANT
FDD I	HSDPA	1922,4 - 1977,7	1137,63	20,00	0,2263	0,9612	COMPLIANT
	HSUPA	1922,4 - 1977,6	1101,54	20,00	0,2191	0,9612	COMPLIANT

VODAFONE REQUIREMENTS

Frequency Band	Mode	Frequency Range (MHz)	EIRP (mW)	Evaluation distance (R) (cm)	Power Density (S_{eq}) $S = \frac{P \cdot G}{4\pi R^2} = \frac{EIRP}{4\pi R^2}$ $\left(\frac{\mathbf{mW}}{\mathbf{cm}^2}\right)$	MPE limit (S _{Lim}) (mW/cm²)	$\begin{aligned} & \text{COMPLIANCE} \\ & (S_{eq} < S_{\text{Lim}}) \\ & (\frac{\text{mW}}{\text{cm}^2}) \end{aligned}$
GSM 850	GSM/GPRS	824,2 - 848,8	1207,65	20	0,2403	0,4121	COMPLIANT
G5W 650	EDGE	824,2 - 848,8	564,86	20	0,1124	0,4121	COMPLIANT
E-GSM 900	GSM/GPRS	880,2 - 914,6	1182,88	20	0,2353	0,4401	COMPLIANT
E-G5W1 700	EDGE	880,2 - 914,7	365,54	20	0,0727	0,4401	COMPLIANT
	WCDMA	882,4 - 912,6	155,22	20	0,0309	0,4412	COMPLIANT
FDD VIII	HSDPA	882,4 - 912,7	151,34	20	0,0301	0,4412	COMPLIANT
	HSUPA	882,4 - 912,8	130,30	20	0,0259	0,4412	COMPLIANT
DCS 1800	GSM/GPRS	1710,2 - 1784,8	1018,45	20	0,2026	0,8551	COMPLIANT
DC3 1800	EDGE	1710,2 - 1784,8	284,41	20	0,0566	0,8551	COMPLIANT
PCS 1900	GSM/GPRS	1850,2 - 1909,8	1188,34	20	0,2364	0,9251	COMPLIANT
PCS 1900	EDGE	1850,2 - 1909,8	835,49	20	0,1662	0,9251	COMPLIANT
	WCDMA	1852,4 - 1907,6	970,51	20	0,1931	0,9262	COMPLIANT
FDD II	HSDPA	1852,4 - 1907,7	1004,62	20	0,1999	0,9262	COMPLIANT
	HSUPA	1852,4 - 1907,6	952,80	20	0,1896	0,9262	COMPLIANT
FDD I	WCDMA	1922,4 - 1977,6	1158,78	20	0,2305	0,9612	COMPLIANT
	HSDPA	1922,4 - 1977,7	1137,63	20	0,2263	0,9612	COMPLIANT

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B.2.3. RF EXPOSURE ASSESSMENT FOR SECONDARY TRANSMITTERS INSTALLED IN GENERIC HOST PLATFORMS

Model name	FCC ID	EIRP (mW)	Evaluation distance (cm)	Power Density (S_{eq}) $S = \frac{P \cdot G}{4\pi R^2} = \frac{EIRP}{4\pi R^2}$ $\left(\frac{\mathbf{mW}}{\mathbf{cm}^2}\right)$	$MPE \ limit \\ (S_{Lim}) \\ (\frac{mW}{cm^2})$	$\begin{array}{c} COMPLIANCE \\ (S_{eq} < S_{Lim}) \end{array}$
Scenario 1	Bluetooth	76,43	20,00	0,0152	1,0000	COMPLIANT
Scenario 2	WLAN	2000,00	20,00	0,3979	1,0000	COMPLIANT
Scenario 3	WLAN	2000,00	20,00	0,3979	1,0000	COMPLIANT
Scenario 3	Bluetooth	76,43	20,00	0,0152	1,0000	COMPLIANT
Scenario 4	WiMAX	2000,00	20,00	0,3979	1,0000	COMPLIANT
Scenario 5	WiMAX	2000,00	20,00	0,3979	1,0000	COMPLIANT
Scenario 3	Bluetooth	76,43	20,00	0,0152	1,0000	COMPLIANT
Commis	WLAN	2000.00	20,00	0,3979	1,0000	COMPLIANT
Scenario 6	WiMAX	2000,00	20,00	0,0081	1,0000	COMPLIANT
Scenario 7	WLAN	2000,00	20,00	0,3979	1,0000	COMPLIANT
	WiMAX	2000,00	20,00	0,0112	1,0000	COMPLIANT
	Bluetooth	76,43	20,00	0,0152	1,0000	COMPLIANT

B.3. RF EXPOSURE ASSESSMENT – COLLOCATION CONSIDERATIONS

B.3.1. INTRODUCTION

In situations where simultaneous exposure to fields of different equipment and frequencies occurs, the possibility that these exposures will be additive in their effects must be considered. Calculations based on this additivity are performed by the sum of relative exposure for each equipment according to the following compliance criteria:

$$\sum_{1}^{N} \frac{S_{eqn}}{S_{Limn}} = \frac{S_{eq1}}{S_{Lim1}} + \frac{S_{eq2}}{S_{Lim2}} + \dots + \frac{S_{eqN}}{S_{LimN}} \le 1$$

where:

 S_{eq} is the power density of the electromagnetic field caused, at a given distance (evaluation distance), by a specific equipment transmitting at a defined frequency.

 S_{Lim} is the MPE limit for the evaluated transmission frequency.

B.3.2. FCC REQUIREMENTS

RELATIVE EXPOSURE FOR F3607gw ERICSSON BROADBAND MODULE

Frequency Band	Mode	Frequency Range (MHz)	$\mathbf{S}_{\mathbf{eq}}$	S_{Lim}	$\frac{S_{eq}}{S_{Lim}}$
GSM 850	GSM/GPRS	824,2 - 848,8	0,2403	0,5495	0,4372
GSM 830	EDGE	824,2 - 848,8	0,1124	0,5495	0,2045
PCS 1900	GSM/GPRS	1850,2 - 1909,8	0,2364	1,0000	0,2364
FCS 1900	EDGE	1850,2 - 1909,8	0,1662	1,0000	0,1662

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	WCDMA	1852,4 - 1907,6	0,1931	1,0000	0,1931
FDD II	HSDPA	1852,4 - 1907,7	0,1999	1,0000	0,1999
	HSUPA	1852,4 - 1907,6	0,1896	1,0000	0,1896

RELATIVE EXPOSURE FOR SECONDARY TRANSMITTERS

SCENARIO	Type of transmitter	S_{eq}	$S_{ m Lim}$	$rac{\mathbf{S}_{\mathrm{eq}}}{\mathbf{S}_{\mathrm{Lim}}}$
Scenario 1	Bluetooth	0,0152	1,0000	0,0152
Scenario 2	WLAN	0,3979	1,0000	0,3979
Scenario 3	WLAN	0,3979	1,0000	0,3979
Scenario 3	Bluetooth	0,0152	1,0000	0,0152
Scenario 4	WiMAX	0,3979	1,0000	0,3979
Compris 5	WiMAX	0,3979	1,0000	0,3979
Scenario 5	Bluetooth	0,0152	1,0000	0,0152
Commis 6	WLAN	0.2070	1.0000	0.2070
Scenario 6	WiMAX	0,3979	1,0000	0,3979
	WLAN	0.2070	1 0000	0.2070
Scenario 7	WiMAX	0,3979	1,0000	0,3979
	Bluetooth	0,0152	1,0000	0,0152

SIMULTANEOUS EXPOSURE

SCENARIO	Equip	$\frac{S_{eq}}{S_{Lim}}$	$\frac{S_{Pri}}{S_{Lim_Pri}} + \\ \sum \frac{S_{Sec}}{S_{Lim_Sec}}$	$\frac{S_{Pri}}{S_{Lim_Pri}} + \\ \sum \frac{S_{Sec}}{S_{Lim_Sec}} < 1$	
Scenario 1	Primary transmitter	Ericsson F3607gw	0,4372	0,4525	COMPLIANT
	Secundary transmitter	Bluetooth	0,0152	-,	
Scenario 2	Primary transmitter	Ericsson F3607gw	0,4372	0,8351	COMPLIANT
Scenario 2	Secundary transmitter	WLAN	0,3979	0,8331	COMILIANT
	Primary transmitter	Ericsson F3607gw	0,4372		
Scenario 3	Secundary transmitter	WLAN	0,3979	0,8503	COMPLIANT
	Secundary transmitter	Bluetooth	0,0152		
Scenario 4	Primary transmitter	Ericsson F3607gw	0,4372	0,8351	COMPLIANT
Scenario 4	Secundary transmitter	WiMAX	0,3979	0,8331	COMPLIANT
	Primary transmitter	Ericsson F3607gw	0,4372		
Scenario 5	Secundary transmitter	WiMAX	0,3979	0,8503	COMPLIANT
	Secundary transmitter	Bluetooth	0,0152	1	

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Scenario 6	Primary transmitter	Ericsson F3607gw	0,4372			
	Secundary transmitter	WLAN	0,3979	0,8351	COMPLIANT	
	Secundary transmitter	WiMAX	0,3919			
	Primary transmitter	Ericsson F3607gw	0,4372			
Scenario 7	Secundary transmitter	WLAN	0,3979	0,8503	COMPLIANT	
Scenario 1	Secundary transmitter	WiMAX	0,3979	0,0303		
	Secundary transmitter	Bluetooth	0,0152			

B.3.3. EUROPEAN UNION REQUIREMENTS

RELATIVE EXPOSURE FOR F3607gw ERICSSON BROADBAND MODULE

Frequency Band	Mode	Frequency Range (MHz)	S_{eq}	S_{Lim}	$\frac{S_{eq}}{S_{Lim}}$
E-GSM 900	GSM/GPRS	880,2 - 914,6	0,2353	0,4401	0,5347
E-GSM 900	EDGE	880,2 - 914,7	0,0727	0,4401	0,1652
	WCDMA	882,4 - 912,6	0,0309	0,4412	0,0700
FDD VIII	HSDPA	882,4 - 912,7	0,0301	0,4412	0,0682
	HSUPA	882,4 - 912,8	0,0259	0,4412	0,0588
DCS 1800	GSM/GPRS	1710,2 - 1784,8	0,2026	0,8551	0,2369
DCS 1800	EDGE	1710,2 - 1784,8	0,0566	0,8551	0,0662
	WCDMA	1922,4 - 1977,6	0,2305	0,9612	0,2398
FDD I	HSDPA	1922,4 - 1977,7	0,2263	0,9612	0,2355
	HSUPA	1922,4 - 1977,6	0,2191	0,9612	0,2280

RELATIVE EXPOSURE FOR SECONDARY TRANSMITTERS

SCENARIO	Type of transmitter	$\mathbf{S}_{\mathbf{eq}}$	\mathbf{S}_{Lim}	$rac{\mathbf{S}_{\mathrm{eq}}}{\mathbf{S}_{\mathrm{Lim}}}$
Scenario 1	Bluetooth	0,0152	1,0000	0,0152
Scenario 2	WLAN	0,3979	1,0000	0,3979
Scenario 3	WLAN	0,3979	1,0000	0,3979
Scenario 3	Bluetooth	0,0152	1,0000	0,0152
Scenario 4	WiMAX	0,3979	1,0000	0,3979
Scenario 5	WiMAX	0,3979	1,0000	0,3979
Scenario 3	Bluetooth	0,0152	1,0000	0,0152
Scenario 6	WLAN	0,3979	1,0000	0,3979
Section 10 0	WiMAX	0,3919	1,0000	0,3979

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Scenario 7	WLAN	0,3979	1,0000	0,3979	
	WiMAX	0,3979	1,0000		
	Bluetooth	0,0152	1,0000	0,0152	

SIMULTANEOUS EXPOSURE

SCENARIO	Equipment		$\frac{\mathbf{S}_{eq}}{\mathbf{S}_{Lim}}$	$\begin{split} & \frac{S_{Pri}}{S_{Lim_Pri}} + \\ & \frac{S_{Sec}}{S_{Lim_Sec}} \end{split}$	$\frac{S_{Pri}}{S_{Lim_Pri}} + \\ \sum \frac{S_{Sec}}{S_{Lim_Sec}} < 1$
Scenario 1	Primary transmitter	Ericsson F3607gw	0,5347	0,5499	COMPLIANT
Section 1	Secundary transmitter	Bluetooth	0,0152	0,5 133	COM EMIN
Scenario 2	Primary transmitter	Ericsson F3607gw	0,5347	0,9326	COMPLIANT
Scenario 2	Secundary transmitter	WLAN	0,3979	0,7320	COMI LIANT
	Primary transmitter	Ericsson F3607gw	0,5347		
Scenario 3	Secundary transmitter	WLAN	0,3979	0,9478	COMPLIANT
	Secundary transmitter	Bluetooth	0,0152		
Scenario 4	Primary transmitter	Ericsson F3607gw	0,5347	0,9326	COMPLIANT
Scenario 4	Secundary transmitter	WiMAX	0,3979	0,9320	
	Primary transmitter	Ericsson F3607gw	0,5347		
Scenario 5	Secundary transmitter	WiMAX	0,3979	0,9478	COMPLIANT
	Secundary transmitter	Bluetooth	0,0152		
	Primary transmitter	Ericsson F3607gw	0,5347		
Scenario 6	Secundary transmitter	WLAN	0,3979	0,9326	COMPLIANT
	Secundary transmitter	WiMAX	0,3979		
	Primary transmitter	Ericsson F3607gw	0,5347		
Scenario 7	Secundary transmitter	WLAN	0,3979	0.0479	COMPLIANT
Scenario /	Secundary transmitter	WiMAX	0,3979	0,9478	COMPLIANT
	Secundary transmitter	Bluetooth	0,0152		

B.3.4. AUSTRALIA REQUIREMENTS

RELATIVE EXPOSURE FOR F3607gw ERICSSON BROADBAND MODULE

Manufacturer	Model name	Frequency range (MHz)	S_{eq}	S_{Lim}	$\frac{\mathbf{S}_{\mathrm{eq}}}{\mathbf{S}_{\mathrm{Lim}}}$
E-GSM 900	GSM/GPRS	880,2 - 914,6	0,2353	0,4401	0,5347
E-GSM 900	EDGE	880,2 - 914,7	0,0727	0,4401	0,1652
DCS 1800	GSM/GPRS	1710,2 - 1784,8	0,2026	0,8551	0,2369
DCS 1800	EDGE	1710,2 - 1784,8	0,0566	0,8551	0,0662

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	WCDMA	1922,4 - 1977,6	0,2305	0,9612	0,2398
FDD I	HSDPA	1922,4 - 1977,7	0,2263	0,9612	0,2355
	HSUPA	1922,4 - 1977,6	0,2191	0,9612	0,2280

RELATIVE EXPOSURE FOR SECONDARY TRANSMITTERS

SCENARIO	Type of transmitter	S_{eq}	S_{Lim}	$rac{\mathbf{S}_{\mathrm{eq}}}{\mathbf{S}_{\mathrm{Lim}}}$	
Scenario 1	Bluetooth	0,0152	1,0000	0,0152	
Scenario 2	WLAN	0,3979	1,0000	0,3979	
Scenario 3	WLAN	0,3979	1,0000	0,3979	
Scenario 3	Bluetooth	0,0152	1,0000	0,0152	
Scenario 4	WiMAX	0,3979	1,0000	0,3979	
Scenario 5	WiMAX	0,3979	1,0000	0,3979	
Scenario 3	Bluetooth	0,0152	1,0000	0,0152	
Scenario 6	WLAN	0,3979	1,0000	0.2070	
Scenario 0	WiMAX	0,3979	1,0000	0,3979	
Scenario 7	WLAN	0.2070	1 0000	0.2070	
	WiMAX	0,3979	1,0000	0,3979	
	Bluetooth	0,0152	1,0000	0,0152	

SIMULTANEOUS EXPOSURE

SCENARIO	Equipment		$\frac{\mathbf{S_{eq}}}{\mathbf{S_{Lim}}}$	$\begin{split} & \frac{S_{Pri}}{S_{Lim_Pri}} + \\ & \frac{S_{Sec}}{S_{Lim_Sec}} \end{split}$	$\frac{S_{Pri}}{S_{Lim_Pri}} + \\ \sum \frac{S_{Sec}}{S_{Lim_Sec}} < 1$
Scenario 1	Primary transmitter	Ericsson F3607gw	0,5347	0,5499	COMPLIANT
Scenario 1	Secundary transmitter	Bluetooth	0,0152	0,5477	COMI LIANT
Scenario 2	Primary transmitter	Ericsson F3607gw	0,5347	0,9326	COMPLIANT
Scenario 2	Secundary transmitter	WLAN	0,3979	0,9320	
	Primary transmitter	Ericsson F3607gw	0,5347		
Scenario 3	Secundary transmitter	WLAN	0,3979	0,9478	COMPLIANT
	Secundary transmitter	Bluetooth	0,0152		
Scenario 4	Primary transmitter	Ericsson F3607gw	0,5347	0,9326	COMPLIANT
Scenario 4	Secundary transmitter	WiMAX	0,3979	0,9320	COMI LIANT
	Primary transmitter	Ericsson F3607gw	0,5347		
Scenario 5	Secundary transmitter	WiMAX	0,3979	0,9478	COMPLIANT
	Secundary transmitter	Bluetooth	0,0152	=	

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	Primary transmitter	Ericsson F3607gw	0,5347			
Scenario 6	Secundary transmitter	WLAN	0,3979	0,9326	COMPLIANT	
	Secundary transmitter	WiMAX	0,3979			
	Primary transmitter	Ericsson F3607gw	0,5347			
Scenario 7	Secundary transmitter	WLAN	0,3979	0,9478	COMPLIANT	
Scenario 1	Secundary transmitter	WiMAX	0,3979 0,9478		COMPLIANT	
	Secundary transmitter	Bluetooth	0,0152			

B.3.5. VODAFONE REQUIREMENTS

RELATIVE EXPOSURE FOR F3607gw ERICSSON BROADBAND MODULE

Manufacturer	Model name	Frequency range (MHz)	S_{eq}	S_{Lim}	$\frac{S_{eq}}{S_{Lim}}$
GSM 850	GSM/GPRS	824,2 - 848,8	0,2403	0,4121	0,5830
USIVI 630	EDGE	824,2 - 848,8	0,1124	0,4121	0,2727
E-GSM 900	GSM/GPRS	880,2 - 914,6	0,2353	0,4401	0,5347
E-GSM 900	EDGE	880,2 - 914,7	0,0727	0,4401	0,1652
	WCDMA	882,4 - 912,6	0,0309	0,4412	0,0700
FDD VIII	HSDPA	882,4 - 912,7	0,0301	0,4412	0,0682
	HSUPA	882,4 - 912,8	0,0259	0,4412	0,0588
DCC 1900	GSM/GPRS	1710,2 - 1784,8	0,2026	0,8551	0,2369
DCS 1800	EDGE	1710,2 - 1784,8	0,0566	0,8551	0,0662
PCS 1900	GSM/GPRS	1850,2 - 1909,8	0,2364	0,9251	0,2556
FCS 1900	EDGE	1850,2 - 1909,8	0,1662	0,9251	0,1797
FDD II	WCDMA	1852,4 - 1907,6	0,1931	0,9262	0,2085
	HSDPA	1852,4 - 1907,7	0,1999	0,9262	0,2158
	HSUPA	1852,4 - 1907,6	0,1896	0,9262	0,2047
FDD I	WCDMA	1922,4 - 1977,6	0,2305	0,9612	0,2398
	HSDPA	1922,4 - 1977,7	0,2263	0,9612	0,2355
	HSUPA	1922,4 - 1977,6	0,2191	0,9612	0,2280

RELATIVE EXPOSURE FOR SECONDARY TRANSMITTERS

SCENARIO	Type of transmitter	$ m S_{eq}$	S_{Lim}	$rac{\mathbf{S}_{\mathrm{eq}}}{\mathbf{S}_{\mathrm{Lim}}}$
Scenario 1	Bluetooth	0,0152	1,0000	0,0152
Scenario 2	WLAN	0,3979	1,0000	0,3979
Scenario 3	WLAN	0,3979	1,0000	0,3979
	Bluetooth	0,0152	1,0000	0,0152
Scenario 4	WiMAX	0,3979	1,0000	0,3979

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Scenario 5	WiMAX	0,3979	1,0000	0,3979	
	Bluetooth	0,0152	1,0000	0,0152	
Scenario 6	WLAN	0,3979	1,0000	0,3979	
	WiMAX	0,3979	1,0000		
Scenario 7	WLAN	0,3979	1,0000	0,3979	
	WiMAX	0,3979	1,0000	0,3979	
	Bluetooth	0,0152	1,0000	0,0152	

SIMULTANEOUS EXPOSURE

SCENARIO	Equipment		$\frac{S_{eq}}{S_{Lim}}$	$\begin{split} & \frac{S_{Pri}}{S_{Lim_Pri}} + \\ & \frac{S_{Sec}}{S_{Lim_Sec}} \end{split}$	$\frac{S_{Pri}}{S_{Lim_Pri}} + \\ \sum \frac{S_{Sec}}{S_{Lim_Sec}} < 1$	
Scenario 1	Primary transmitter	Ericsson F3607gw	0,5830	0,5982	COMPLIANT	
	Secundary transmitter	Bluetooth	0,0152	0,000		
Scenario 2	Primary transmitter	Ericsson F3607gw	0,5830	0,9809	COMPLIANT	
Scenario 2	Secundary transmitter	WLAN	0,3979	0,7007	COMILIANT	
	Primary transmitter	Ericsson F3607gw	0,5830		COMPLIANT	
Scenario 3	Secundary transmitter	WLAN	0,3979	0,9961		
	Secundary transmitter	Bluetooth	0,0152			
Scenario 4	Primary transmitter	Ericsson F3607gw	0,5830	0,9809	COMPLIANT	
Scenario 4	Secundary transmitter	WiMAX	0,3979	0,9809		
	Primary transmitter	Ericsson F3607gw	0,5830			
Scenario 5	Secundary transmitter	WiMAX	0,3979	0,9961	COMPLIANT	
	Secundary transmitter	Bluetooth	0,0152			
	Primary transmitter	Ericsson F3607gw	0,5830			
Scenario 6	Secundary transmitter	WLAN	0,3979	0,9809	COMPLIANT	
	Secundary transmitter	WiMAX	0,3979			
Scenario 7	Primary transmitter	Ericsson F3607gw	0,5830			
	Secundary transmitter	WLAN	0,3979 0,9961		COMPLIANT	
	Secundary transmitter	WiMAX			COMPLIANT	
	Secundary transmitter	Bluetooth	0,0152			

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